DEPARTMENT OF HEALTH

Protecting, Maintaining and Improving the Health of All Minnesotans

Old Municipal Well Report for Maple Plain

PWSID: 1270021

MDH

April 2019

Minnesota Department of Health
Environmental Health in Minnesota

MDH Public Water Supply Sources Report

PWSID: **1270021**
PWS Name: **Maple Plain**
PWS Type: **Community**
PWS Status: **Active**

Public Water Supply Sources: Information from MNDWIS and CWI (sorted by Sample Point ID)
Source Type Codes: **GW** = Ground water; **SW** = Surface water; **GUI** = Ground water under influence
Location Source: **MGS** = digitized by the MN Geological Survey; * indicates imcomplete records
O* = duplicate in Old Municipal Well Data; **R*** = duplicate in MNDWIS PWS Sources Removed from Flow; **S*** = duplicate in MNDWIS PWS Sources in Flow;

MNDWIS PWS SOURCES IN FLOW

Source Info							MNDWIS Data				CWI Data			
Sample Point ID	Name	Type	Availability	Status	Well No. (link to Well Log(s))	Location Info (link to Map)	Drill Year	Depth (in feet)	Case Depth (in feet)	Case Diam. (in inches)	Drill Date	Depth Completed (in feet)	Case Depth (in feet)	Case Diam. (in inches)
S01	**Well #1**	GW	Emergency	Active	207090 **O***	04/06/1999 (R. Hoerr)	1939	418	238	10	11-00-1939	418	238	10
S02	**Well #2**	GW	Emergency	Out Long Term	207407 **O***	04/06/1999 (R. Hoerr)	1959	435	241	16	10-01-1959	435	241	16
S03	**Well #3**	GW	Primary	Active	112238 **O***	11/30/2016 (A. Djerrari)	1978	**580**	534	18	04-20-1978	**534**	534	18
S04	**Well #4**	GW	Primary	Active	824078	3/13/2017 (B. Bloomgren)	2017	392	343	12	04-13-2017	392	343	12

MNDWIS and CWI data value discrepancies in preceding tables are shown in **RED** (0 or null values excepted).

Old Municipal Wells

The following tables show information on wells whose existence (or previous existence) has not yet been confirmed.

OLD MUNICIPAL Well Data

Well Search Reference	Name (s)	Unique Well Number	Drilled Depth (ft.)	Completed Depth (ft.)	Depth Cased (ft.)	Casing Diameter (in.)	Year Constructed	Construction Type	Year Out of Service	Sealing Record?	Year Sealed	Location Info	Comments
Well A	Well No. 1	207090 **S***	418		238	10	1939	Cable Tool/Bored				Pumping station in the north eastern part of town.	Emergency Active
Well B	Well No. 2	207407 **S***	435		241	16	1958	Cable Tool/Bored				Lots 6 and 7, Block 1, Original Plat	Emergency Out Long Term
Well C	Well No. 3	112238 **S***	404		333	24	1978	Cable Tool/Bored					Active

Databases Searched	Remarks

OLD MUNICIPAL Well Data													
Well Search Reference	Name (s)	Unique Well Number	Drilled Depth (ft.)	Completed Depth (ft.)	Depth Cased (ft.)	Casing Diameter (in.)	Year Constructed	Construction Type	Year Out of Service	Sealing Record?	Year Sealed	Location Info	Comments
County Well Index (1-mile radius); MDH DWP Microfiche; MDH 1988-2002 Muni Well Inventory (1Suite); Biennial Report of the MN State Dairy and Food Commissioner-1907; Minnesota Geological Survey City Well File Folders; MGS Bulletin (22, 27, 31, or 32); MDH DWP MNDWIS; MN Historical Soc.- Fire Underwriters Insp. Bureau (Fisher) historical map ; Sanborn Fire Insurance Maps; MDH WELLS													
Old Municipal Well Data Compiled By: **Mara Boulanger** Compiled Date: **4/1/2019 2:12:40 PM**													

OLD MUNICIPAL Well Data - no RAW HYDRO data found.

Source: MN Dep't. of Health - 4/1/2019

Use of MDH Public Water Supply Sources Report

The report you have received shows three classes of Public Water Supply wells:

- In Use (actively used)
- Removed From Flow (for back-up or emergency use; may be disconnected from PWS)
- **Old Municipal Wells (unused wells with no documented location, unique ID number, and/or well sealing record)**

Old Municipal Wells are unsealed, abandoned wells. These wells pose a risk of contamination to existing wells and aquifers. According to State Well Code and under the terms of your Wellhead Protection Plan, your PWS may need to identify, locate, and properly seal Old Municipal Wells within your Drinking Water Supply Management Area, to current MDH standards.

While historical records may indicate that some of these wells were "capped", "abandoned", or "sealed" in the past, unless it can be shown that the sealing was performed to current standards, they may need to be located, cleaned out, and sealed properly with a well sealing record issued.

The report lists database references that were searched to compile the report. Under "Remarks" are notes and questions to help you with this process. State grant funding is available to help fund sealing of these old public water supply wells.

If you have questions, please talk to your MDH Planner or Hydrologist to address your PWS's specific issues. This report is not intended to be the "last word" on the status of Old Municipal Wells and your input will be critical in successfully finding and sealing these potential sources of contamination.

Restart

Maple Plain

8/26/40

to

~~4/20/82~~

5/26/83

MINNESOTA DEPARTMENT OF HEALTH
Division of Sanitation

Report on the Water Supply
Maple Plain, Minnesota
February 26, 1943

Well A The public water supply for this village is obtained from a drilled well. The water is pumped directly into the distribution system while the overflow collects in an elevated steel tank.

Location of Source

The well is located in a pumping station in the northeastern part of town. The ground is level and drains west through a culvert under the road in front of the pump station and thence north into the road ditch.

There is no source of contamination on this site near enough to be considered dangerous.

Well, Pump and Pumphouse

The well is drilled to a depth of 418 feet and is cased with a ten-inch iron pipe to 238 feet below ground level. From 238 feet to 402 feet the well consists of a 10-inch, and from 402 feet to 418 feet of an 8-inch, open drill-hole.

The casing extends to a point 16 inches above the pumproom floor.

The normal water level in the well is 110 feet below the ground surface. A stratographic section of this well shows the following formations:

Formation	Thickness	Depth
Black Soil	2 feet	2 feet
Yellow Clay	13 feet	15 feet
Blue Clay	59 feet	74 feet
Blue Clay and Sand	86 feet	160 feet
Sand and Gravel	13 feet	173 feet
Blue Clay	37 feet	210 feet
Fine Sand	13 feet	223 feet

MINNESOTA DEPARTMENT OF HEALTH
Division of Sanitation

Sanitation Rating of Maple Plain Water Supply

Owner Village of Maple Plain Date November 28, 1946

	Perfect Score	As Found	As Recommended	See Recommendation No. In Attached Report
(A) Source				
Bacteriological safety / Adequacy of treatment	30	30		
Physical quality	2	2		
Chemical quality	3	3		
Biological quality	2	2		
Adequacy of quantity	3	2		
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	39		
(B) Prime Moving Equipment				
Well or intake	8	8		
Pumps	7	7		
Piping arrangement	5	5		
Reservoirs	7	7		
Equipment housing	3	3		
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	30		
(C) Distribution System				
Street mains	5	4		
Building services	2	2		
Plumbing	3	2		
Hydrants	1	1		
Storage	4	4		
Pressure	2	2		
Tap-water quality	3	3		
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	18		
(D) Operation and Operators				
Control of plant	5	4		
Condition of plant	3	3		
Training and experience	2	1		
Sub-total	10			
Hazard adjustment factor deducted	0			
Total	10	8		
GRAND TOTAL AND RATING	100	95		

Maple Plain 10199 6 19

MINNESOTA DEPARTMENT OF HEALTH
DIVISION OF WATER SUPPLY AND PLUMBING

Sanitation Rating of Maple Plain Water Supply

Owner Municipal Date Dec. 25, 1948

	Perfect Score	As Found	As Recommended	See Recommendation No. in Attached Report
(A) Source				
Sanitary Safety Adequacy of treatment	30	30	30	
Physical quality	2	2	2	
Chemical quality	4	3	4	Iron Removal Plant
Biological quality	2	2	2	
Adequacy of quantity	2	2	2	
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	39	40	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	7	7	
Piping arrangement	5	5	5	
Reservoirs	7	7	7	
Equipment housing	3	3	3	
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	30	30	
(C) Distribution System				
Street mains	5	4	4	
Building services	2	2	2	
Plumbing	3	2	2.5	Recommendation No.1
Hydrants	1	1	1	
Storage	4	4	4	
Pressure	2	2	2	
Tap water quality	3	3	3	
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	19	19.5	
(D) Operation and Operators				
Control of system	5	4	4	
Condition of system	3	3	3	
Training and experience	2	1	2	Attend Instt. Water School
Sub-total	10			
Hazard adjustment factor deducted	0			
Total	10	8	9	
GRAND TOTAL AND RATING	100	95	97.5	

Grade A: 90 and upward - high degree of safety.
Grade B: 85 to 89 - moderately high degree of safety.
Grade C: 80 to 84 - moderately safe - improvement needed.
Grade D: 70 to 79 - low degree of safety - improvement urgent.
Grade E: 69 and lower - very dangerous condition, emergency measures recommended.

MINNESOTA DEPARTMENT OF HEALTH

DIVISION OF WATER SUPPLY AND PLUMBING

Sanitation Rating of Municipal Water Supply

Owner Maple Plain Date March 29, 1949

	Perfect Score	As Found	As Recommended	See Recommendation No. In Attached Report
(A) Source				
Sanitary Safety / Adequacy of treatment	30	30	30	
Physical quality	2	2	2	
Chemical quality	4	3	3	
Biological quality	2	2	2	
Adequacy of quantity	2	2	2	
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	39	39	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	7	7	
Piping arrangement	5	5	5	
Reservoirs	7	7	7	
Equipment housing	3	3	3	
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	30	30	
(C) Distribution System				
Street mains	5	4	4	
Building services	2	2	2	
Plumbing	3	1	2½	
Hydrants	1	1	1	
Storage	4	4	4	
Pressure	2	2	2	
Tap water quality	3	3	3	
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	17	18½	
(D) Operation and Operators				
Control of system	5	4	4	
Condition of system	3	3	3	
Training and experience	2	1	1	
Sub-total	10			
Hazard adjustment factor deducted	0			
Total	10	8	8	

MINNESOTA DEPARTMENT OF HEALTH

DIVISION OF WATER SUPPLY AND PLUMBING

Sanitation Rating of Maple Plain Water Supply

Owner Municipal Date January 11, 1950

	Perfect Score	As Found	As Recommended	See Recommendation No. In Attached Report
(A) Source				
Sanitary Safety / Adequacy of treatment	30	30	30	
Physical quality	2	2	2	
Chemical quality	4	3	3	
Biological quality	2	2	2	
Adequacy of quantity	2	2	2	
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	39	39	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	5	7	a
Piping arrangement	5	5	5	
Reservoirs	7	7	7	
Equipment housing	3	3	3	
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	28	30	
(C) Distribution System				
Street mains	5	4	4	
Building services	2	2	2	
Plumbing	3	1	2½	b
Hydrants	1	1	1	
Storage	4	4	4	
Pressure	2	2	2	
Tap water quality	3	3	3	
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	17	18½	
(D) Operation and Operators				
Control of system	5	4	4	
Condition of system	3	3	3	
Training and experience	2	1	2	Attend Dept. water scho
Sub-total	10			
Hazard adjustment factor deducted	0			
Total	10	8	9	

MINNESOTA DEPARTMENT OF HEALTH
DIVISION OF WATER SUPPLY AND PLUMBING

Sanitation Rating of Maple Plain Water Supply

Owner Municipal Date May 10, 1951

	Perfect Score	As Found	As Recommended	See Recommendation No. In Attached Report
(A) Source				
Sanitary Safety Adequacy of treatment	30	30	30	
Physical quality	2	2	2	
Chemical quality	4	3	3	
Biological quality	2	2	2	
Adequacy of quantity	2	2	2	
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	39	39	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	5	7	a
Piping arrangement	5	5	5	
Reservoirs	7	7	7	
Equipment housing	3	3	3	
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	28	30	
(C) Distribution System				
Street mains	5	4	4	
Building services	2	2	2	
Plumbing	3	1	2½	b
Hydrants	1	1	1	
Storage	4	4	4	
Pressure	2	2	2	
Tap water quality	3	3	3	
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	17	18½	
(D) Operation and Operators				
Control of system	5	4	4	
Condition of system	3	3	3	
Training and experience	2	1	2	Attend Dept. water school
Sub-total	10			
Hazard adjustment factor deducted	0			
Total	10	8	9	

MINNESOTA DEPARTMENT OF HEALTH

DIVISION OF MUNICIPAL WATER SUPPLY

Sanitation Rating of Maple Plain Water Supply

Owner Municipal Date January 31, 1952

	Perfect Score	As Found	As Recommended	See Recommendation No. In Attached Report
(A) Source				
Sanitary Safety Adequacy of treatment	30	30	30	
Physical quality	2	2	2	
Chemical quality	4	3	3	
Biological quality	2	2	2	
Adequacy of quantity	2	2	2	
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	39	39	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	6	7	a
Piping arrangement	5	5	5	
Reservoirs	7	7	7	
Equipment housing	3	3	3	
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	29	30	
(C) Distribution System				
Street mains	5	4	4	
Building services	2	2	2	
Plumbing	3	1	2½	b
Hydrants	1	1	1	
Storage	4	4	4	
Pressure	2	2	2	
Tap water quality	3	3	3	
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	17	18½	
(D) Operation and Operators				
Control of system	3	2	2	
Condition of system	2	2	2	
Operator qualifications	5	4	5	
Sub-total	10			
Hazard adjustment factor deducted	0			
Total	10	8	9	
GRAND TOTAL AND RATING	100	93	96½	

MINNESOTA DEPARTMENT OF HEALTH

Section of Municipal Water Supply

Sanitation Safety Rating of Maple Plain Water Supply

Date January 29, 1953

	Perfect Score	As Found	As Recommended	See Recommendation No. in Attached Report
(A) Source				
Sanitary Safety / Adequacy of treatment	20	20	20	
Bacteriological Quality	10	10	10	
Physical quality	2	2	2	
Chemical quality	4	3	3	
Biological quality	2	2	2	
Adequacy of quantity	2	2	2	
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	39	39	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	7	7	
Piping arrangement	5	5	5	
Reservoirs	7	7	7	
Equipment housing	3	3	3	
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	30	30	
(C) Distribution System				
Street mains	5	4	4	
Building services	2	2	2	
Plumbing	3	1	$2\frac{1}{2}$	a
Hydrants	1	1	1	
Storage	4	4	4	
Pressure	2	2	2	
Tap water quality	3	3	3	
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	17	$18\frac{1}{2}$	
(D) Operation and Operators				
Control of system	3	2	2	
Condition of system	2	2	2	
Operator qualifications	5	4	5	
Sub-total	10			

MINNESOTA DEPARTMENT OF HEALTH

Section of Municipal Water Supply

Sanitation Safety Rating of Maple Plain Water Supply

Date September 21, 1954

	Perfect Score	As Found	As Recommended	See Recommendation No. In Attached Report
(A) Source				
Sanitary Safety Adequacy of treatment	20	20	20	
Bacteriological Quality	10	10	10	
Physical quality	2	2	2	
Chemical quality	4	3	3	
Biological quality	2	2	2	
Adequacy of quantity	2	2	2	
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	39	39	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	7	7	
Piping arrangement	5	5	5	
Reservoirs	7	7	7	
Equipment housing	3	3	3	
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	30	30	
(C) Distribution System				
Street mains	5	4	4	
Building services	2	2	2	
Plumbing	3	1	2½	a
Hydrants	1	1	1	
Storage	4	4	4	
Pressure	2	2	2	
Tap water quality	3	3	3	
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	17	18½	
(D) Operation and Operators				
Control of system	3	2	2	
Condition of system	2	2	2	
Operator qualifications	5	4	5	

MINNESOTA DEPARTMENT OF HEALTH

Section of Municipal Water Supply

Sanitation Safety Rating of Maple Plain Water Supply

Date September 8, 1955

	Perfect Score	Found	Recommended	See Recommendation No. in Attached Report
(A) Source				
Sanitary Safety / Adequacy of treatment	20	20	20	
Bacteriological Quality	10	10	10	
Physical quality	2	2	2	
Chemical quality	4	3	3	
Biological quality	2	2	2	
Adequacy of quantity	2	2	2	
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	39	39	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	7	7	
Piping arrangement	5	5	5	
Reservoirs	7	7	7	
Equipment housing	3	3	3	
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	30	30	
(C) Distribution System				
Street mains	5	4	4	
Building services	2	2	2	
Plumbing	3	1	2½	a
Hydrants	1	1	1	
Storage	4	4	4	
Pressure	2	2	2	
Tap water quality	3	3	3	
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	17	18½	
(D) Operation and Operators				
Control of system	3	2	2	
Condition of system	2	2	2	
Operator qualifications	5	4	5	
Sub-total	10			

MINNESOTA DEPARTMENT OF HEALTH

Section of Municipal Water Supply

Sanitation Safety Rating of Maple Plain Water Supply

Date January 9, 1957

	Perfect Score	As Found	As Recommended	See Recommendation No. in Attached Report
(A) Source				
Sanitary Safety / Adequacy of treatment	20	20	20	
Bacteriological Quality	10	10	10	
Physical quality	2	2	2	
Chemical quality	4	3	3	
Biological quality	2	1	2	
Adequacy of quantity	2	1	2	b
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	37	39	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	7	7	
Piping arrangement	5	5	5	
Reservoirs	7	7	7	
Equipment housing	3	3	3	
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	30	30	
(C) Distribution System				
Street mains	5	4	4	
Building services	2	2	2	
Plumbing	3	1	2½	a
Hydrants	1	1	1	
Storage	4	4	4	
Pressure -	2	2	2	
Tap water quality	3	3	3	
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	17	18½	
(D) Operation and Operators				
Control of system	3	2	2	
Condition of system	2	2	2	
Operator qualifications	5	4	5	Attend water school

4-17-62

Minnesota Department of Health
District VI
Minneapolis Minnesota

Report on Investigation of Municipal Water Supply
Maple Plain, Minnesota
March 7, 1952

Date of last investigation - September 8, 1955

Rating at last investigation - 94

Changes since last investigation - Well B

A second well has been added to the system. This well, located on lots 6 and 7, Block 1, Original Plat, village of Maple Plain, is a 10-inch well drilled to a depth of 435 feet and provided with 241 feet of casing. The reported log of the well is as follows:

		Depth (ft.)	Thickness (ft.)
Drift	Clay	0 - 214	214
Franconia & lower formations	Sandstone (dirty)	214 - 228	
	Grey shale	228 - 243	
	Green sandy shale	243 - 250	
	Red shale	250 - 255	
	Green sandy shale	255 - 265	
	Shale (hard)	265 - 285	
	Alternate layers of green shale and sandstone	285 - 365	
	White sandstone	365 - 428	
	Shale & sandstone	428 - 435	

Water is drawn from the well by means of a water-lubricated vertical turbine pump which is rated at approximately 350 gallons per minute and powered by a 30 horsepower electric motor. The static water level is reported to be approximately 119 feet and the draw down 68 feet at a pumping rate of 400 gallons per minute. The well is provided with properly constructed and screened casing and discharge vents. The pumphouse is constructed with the floor entirely above grade. The floor drain, constructed of extra-heavy cast-iron pipe, discharges to a gravel pocket approximately 40 feet from the well. The pumphouse has been provided with

MINNESOTA DEPARTMENT OF HEALTH

Section of Water Supply and General Engineering

Sanitation Safety Rating of Maple Plain Municipal Water Supply

Date March 7, 1962

	Perfect Score	As Found	As Recommended	See Recommendation No. In Attached Report
(A) Source				
Sanitary Safety Adequacy of treatment	20	20	20	
Bacteriological Quality	10	10	10	
Physical quality	2	2	2	
Chemical quality	4	3	3	
Biological quality	2	1	2	1
Adequacy of quantity	2	2	2	
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	38	39	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	7	7	
Piping arrangement	5	5	5	
Reservoirs	7	7	7	
Equipment housing	3	2	3	2
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	29	30	
(C) Distribution System				
Street mains	5	4	4	
Building services	2	1.5	1.5	
Plumbing	3	2.5	2.5	
Hydrants	1	1	1	
Storage	4	4	4	
Pressure	2	2	2	
Tap water quality	3	2	3	Coliform free sample
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	17	18	
(D) Operation and Operators				
Control of system	3	1	2	3
Condition of system	2	2	2	
Operator qualifications	5	4	5	4
Sub-total	10			

MINNESOTA DEPARTMENT OF HEALTH

Section of Water Supply and General Engineering

Sanitation Safety Rating of Maple Plain Municipal Water Supply

Date January 10, 1963

	Perfect Score	As Found	As Recommended	See Recommendation No. In Attached Report
(A) Source				
Sanitary Safety Adequacy of treatment	20	20	20	
Bacteriological Quality	10	10	10	
Physical quality	2	2	2	
Chemical quality	4	3	3	
Biological quality	2	2	2	
Adequacy of quantity	2	2	2	
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	39	39	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	7	7	
Piping arrangement	5	5	5	
Reservoirs	7	7	7	
Equipment housing	3	2	3	2
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	29	30	
(C) Distribution System				
Street mains	5	4	4	
Building services	2	1.5	1.5	
Plumbing	3	2.5	2.5	
Hydrants	1	1	1	
Storage	4	4	4	
Pressure	2	2	2	
Tap water quality	3	3	3	
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	~~18~~	~~18~~	
(D) Operation and Operators				
Control of system	3			
Condition of system	2	1 2	2 2	1 & 3
Operator qualifications	5	4	5	4
Sub-total	10			

MINNESOTA DEPARTMENT OF HEALTH

Section of Water Supply and General Engineering

Sanitation Safety Rating of Maple Plain Municipal Water Supply

Date September 9, 1964

	Perfect Score	As Found	As Recommended	See Recommendation No. in Attached Report
(A) Source				
Sanitary Safety Adequacy of treatment	20	20	20	
Bacteriological Quality	10	10	10	
Physical quality	2	2	2	
Chemical quality	4	3	3	
Biological quality	2	2	2	
Adequacy of quantity	2	2	2	
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	39	39	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	7	7	
Piping arrangement	5	5	5	
Reservoirs	7	7	7	
Equipment housing	3	2	3	2
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	29	30	
(C) Distribution System				
Street mains	5	4	4	
Building services	2	1.5	1.5	
Plumbing	3	2.5	2.5	
Hydrants	1	1	1	
Storage	4	4	4	
Pressure	2	2	2	
Tap water quality	3	3	3	
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	18	18	
(D) Operation and Operators				
Control of system	3	1	2	1 & 3
Condition of system	2	2	2	
Operator qualifications	5	3	5	4
Sub-total	10			

MINNESOTA DEPARTMENT OF HEALTH

Section of Water Supply and General Engineering

Sanitation Safety Rating of Maple Plain Municipal Water Supply

Date September 9, 1964

	Perfect Score	As Found	As Recommended	See Recommendation No. In Attached Report
(A) Source				
Sanitary Safety / Adequacy of treatment	20	20	20	
Bacteriological Quality	10	10	10	
Physical quality	2	2	2	
Chemical quality	4	3	3	
Biological quality	2	2	2	
Adequacy of quantity	2	2	2	
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	39	39	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	7	7	
Piping arrangement	5	5	5	
Reservoirs	7	7	7	
Equipment housing	3	2	3	2
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	29	30	
(C) Distribution System				
Street mains	5	4	4	
Building services	2	1.5	1.5	
Plumbing	3	2.5	2.5	
Hydrants	1	1	1	
Storage	4	4	4	
Pressure	2	2	2	
Tap water quality	3	3	3	
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	18	18	
(D) Operation and Operators				
Control of system	3	1	2	1 & 3
Condition of system	2	2	2	
Operator qualifications	5	3	5	4
Sub-total	10			

MINNESOTA DEPARTMENT OF HEALTH

Section of Water Supply and General Engineering

Sanitation Safety Rating of Maple Plain Municipal Water Supply

Date August 25, 1969

	Perfect Score	As Found	As Recommended	See Recommendation No. In Attached Report
(A) Source				
Sanitary Safety Adequacy of treatment	20	20	20	
Bacteriological Quality	10	10	10	
Physical quality	2	2	2	
Chemical quality	4	3	3	
Biological quality	2	2	2	
Adequacy of quantity	2	2	2	
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	39	39	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	7	7	
Piping arrangement	5	5	5	
Reservoirs	7	7	7	
Equipment housing	3	3	3	
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	30	30	
(C) Distribution System				
Street mains	5	4	4	
Building services	2	1.5	1.5	
Plumbing	3	2.5	2.5	
Hydrants	1	1	1	
Storage	4	4	4	
Pressure	2	2	2	
Tap water quality	3	3	3	
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	18	18	
(D) Operation and Operators				
Control of system	3	1	2	2
Condition of system	2	2	2	
Operator qualifications	5	3	5	3
Sub-total	10			

MINNESOTA DEPARTMENT OF HEALTH

Section of Water Supply and General Engineering

Sanitation Safety Rating of Maple Plain Municipal Water Supply

Date January 20, 1971

	Perfect Score	As Found	As Recommended	See Recommendation No. In Attached Report
(A) Source				
Sanitary Safety Adequacy of treatment	20	20	20	
Bacteriological Quality	10	10	10	
Physical quality	2	2	2	
Chemical quality	4	3	3	
Biological quality	2	2	2	
Adequacy of quantity	2	2	2	
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	39	39	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	7	7	
Piping arrangement	5	5	5	
Reservoirs	7	7	7	
Equipment housing	3	3	3	
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	30	30	
(C) Distribution System				
Street mains	5	4	4	
Building services	2	1.5	1.5	
Plumbing	3	2.5	2.5	
Hydrants	1	1	1	
Storage	4	4	4	
Pressure	2	2	2	
Tap water quality	3	3	3	
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	18	18	
(D) Operation and Operators				
Control of system	3	1	3	1 & 2
Condition of system	2	2	2	
Operator qualifications	5	5	5	
Sub-total	10			

MINNESOTA DEPARTMENT OF HEALTH

Section of Water Supply and General Engineering

Sanitation Safety Rating of Maple Plain Municipal Water Supply

Date March 21, 1973

	Perfect Score	As Found	As Recommended	See Recommendation No. In Attached Report
(A) Source				
Sanitary Safety Adequacy of treatment	20	20	20	
Bacteriological Quality	10	10	10	
Physical quality	2	2	2	
Chemical quality	4	3	3	
Biological quality	2	2	2	
Adequacy of quantity	2	2	2	
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	39	39	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	7	7	
Piping arrangement	5	5	5	
Reservoirs	7	7	7	
Equipment housing	3	3	3	
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	30	30	
(C) Distribution System				
Street mains	5	4	4	
Building services	2	1.5	1.5	
Plumbing	3	2.5	2.5	
Hydrants	1	1	1	
Storage	4	4	4	
Pressure	2	2	2	
Tap water quality	3	3	3	
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	18	18	
(D) Operation and Operators				
Control of system	3	1	3	1
Condition of system	2	2	2	
Operator qualifications	5	4	5	2
Sub-total	10			

MINNESOTA DEPARTMENT OF HEALTH

Section of Water Supply and General Engineering

Sanitation Safety Rating of Maple Plain Municipal Water Supply

Date March 21, 1973

	Perfect Score	As Found	As Recommended	See Recommendation No. In Attached Report
(A) Source				
Sanitary Safety / Adequacy of treatment	20	20	20	
Bacteriological Quality	10	10	10	
Physical quality	2	2	2	
Chemical quality	4	3	3	
Biological quality	2	2	2	
Adequacy of quantity	2	2	2	
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	39	39	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	7	7	
Piping arrangement	5	5	5	
Reservoirs	7	7	7	
Equipment housing	3	3	3	
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	30	30	
(C) Distribution System				
Street mains	5	4	4	
Building services	2	1.5	1.5	
Plumbing	3	2.5	2.5	
Hydrants	1	1	1	
Storage	4	4	4	
Pressure	2	2	2	
Tap water quality	3	3	3	
Sub-total	20			
Hazard adjustment factor deducted	0			
Total	20	18	18	
(D) Operation and Operators				
Control of system	3	1	3	1
Condition of system	2	2	2	
Operator qualifications	5	4	5	2
Sub-total	10			

MINNESOTA DEPARTMENT OF HEALTH

REPORT ON INVESTIGATION OF PUBLIC WATER SUPPLY

Name of Water Supply: Maple Plain Municipal Water Supply
PWS ID Number: 1270021
Street: City Hall
Telephone Numbers: City: 479-1123
City: Maple Plain | State: MN | Zip Code: 55359
Operator:
Engineer:
County: Hennepin | District: Metropolitan
Other:

Water Superintendent: Allan Elsenpeter	Classification: D	Plant Classification: C	Owner Type: Municipal
Other Operators: Roger Meyer	Classification: D	Plant Type: Community	Plumbing Permits and Inspections Required: ☒ Yes ☐ No
		Date of Previous Survey: July 24, 1979	Date of Survey: October 28, 1980

City Engineer: McCombs-Knutson and Associates (Dave Hansing)

SERVICE AREA CHARACTERISTICS:

- ☒ Municipal
- ☐ Mobile Home Park
- ☐ Company Town
- ☐ Institution
- ☐ School or College
- ☐ Hotel/Motel
- ☐ Resort
- ☐ Restaurant
- ☐ Recreation Area
- ☐ Campground
- ☐ Housing Development
- ☐ Other

Population Served: 1,400	Service Connections: 475 (lead-0)	Storage Capacity: (List Separately) 50,000 gal.elevated
Design Capacity (gal/day): 1,300,000	Average Daily Production (gal/day): 200,000	
Emergency Capacity (gal/day): 0	Highest Daily Production (gal/day): 550,000	Total: 50,000 gallons

	Source Name	Source Code	Availability	TREATMENT: Disinfection	Aeration	Coagulation	Sedimentation	Filtration	Corrosion Con. Stabilization	Softening	Taste & Odor	Ammoniation	Fluoridation	Other	WELL DATA: Year Installed	Casing Diameter	Casing Depth	Screen Length	Well Depth	Water Bearing Formation	Static Level	Drawdown	Pump Type
Well A	Well #1	G	E												1939				418	Franconia Dresbach			VT 175
Well B	Well #2	G	P	Dc	As			Fl					Va		1958	16	241		435	Franconia Dresbach	119	65	VT 350
Well C	Well #3	G	P										Va		1978	24	233		404	Franconia Dresbach	120	34	VT 390

MINNESOTA DEPARTMENT OF HEALTH

Section of Water Supply and General Engineering

Sanitation Safety Rating of Maple Plain Municipal Water Supply

Date October 28, 1980

	Perfect Score	As Found	As Recommended	See Recommendation No. in Attached Report
(A) Source				
Sanitary Safety Adequacy of treatment	20	20	20	
Bacteriological Quality	10	10	10	
Physical quality	2	2	2	
Chemical quality	4	3	3	
Biological quality	2	2	2	
Adequacy of quantity	2	2	2	
Sub-total	40			
Hazard adjustment factor deducted	0			
Total	40	39	39	
(B) Prime Moving Equipment				
Well or intake	8	8	8	
Pumps	7	7	7	
Piping arrangement	5	5	5	1
Reservoirs	7	7	7	
Equipment housing	3	3	3	
Sub-total	30			
Hazard adjustment factor deducted	0			
Total	30	30	30	
(C) Distribution System				
Street mains	5	5	5	
Building services	2	1.5	1.5	
Plumbing	3	2.5	2.5	
Hydrants	1	1	1	2
Storage	4	2.5	4	3,4,5
Pressure	2	2	2	
Tap water quality	3	3	3	
Sub-total	20	17.5	19	
Hazard adjustment factor deducted	0	-1		2
Total	20	16.5	19	
(D) Operation and Operators				
Control of system	3	0.5	3	6,7,8,9,10,11
Condition of system	2	2	2	
Operator qualifications	5	3	5	12
Sub-total	10			

ELEVENTH BIENNIAL REPORT

OF THE

Minnesota State Dairy and Food Commissioner

TRANSMITTED TO THE LEGISLATURE

1907

1907
HARRISON & SMITH CO.
MINNEAPOLIS

Google

GOODHUE COUNTY.

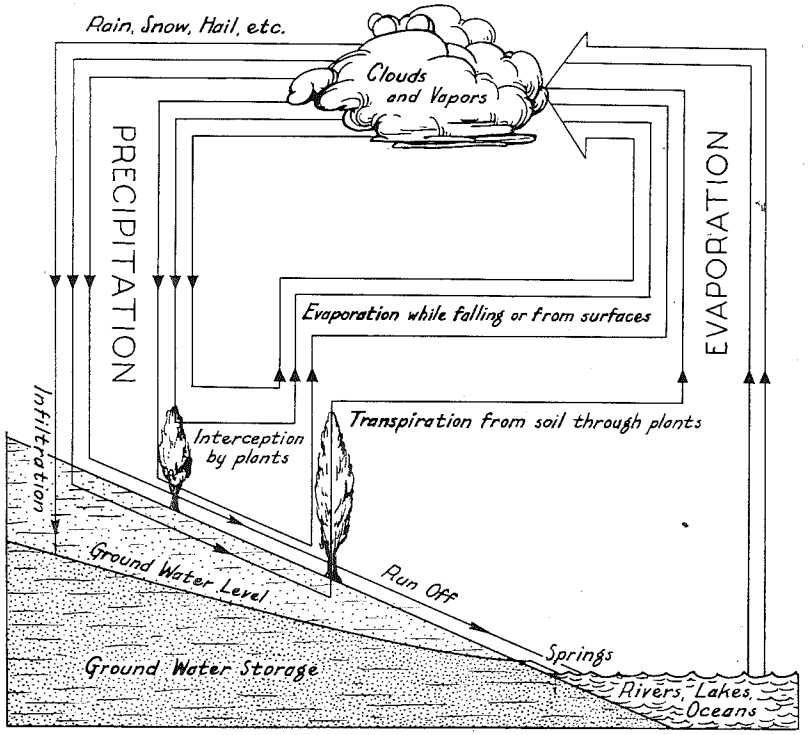
Name of Creamery.	Shipping Station.	Name of Secretary or Manager.	Postoffice Address.	Name of Buttermaker.	Postoffice Address.
Pine Island Creamery Co	Pine Island	C. H. Levit	Pine Island	W. Bumgardner	Pine Island.
North Star	Kenyon	Chris. Talle	Kenyon	M. M. Hjesmstad	Kenyon.
Welch	Welch	Frank Boothryd	Welch	S. Nelson	Welch.
Vasa	Cannon F.	A. J. Velander	Cannon Falls	A. F. Peehl	Cannon Falls.
Goodhue Creamery	Goodhue	E. G. Hammer	Zumbrota	F. W. Meen	Goodhue.
Zumbrota Creamery	Zumbrota	E. G. Hammer	Zumbrota	A. R. Meen	Zumbrota.
Red Wing, A. G. Swanson	Red Wing	A. G. Swanson	Redwing	A. Swanson	Red Wing.
Roscoe Butter and Cheese Association	Zumbrota	N. O. Rommen	Roscoe	Knute Nelson	Roscoe.
Wastedo Creamery Co	Cannon Falls	F. S. Stone	Cannon Falls, R. 1.	J. Bloomquist	Cannon Falls, R. 4.
Belle Creek Co-operative Dairy Assn	Goodhue	A. V. Anderson	Goodhue, R. 5	F. Jacobson	Cannon Falls.
Skyberg Co-operative Creamery Assn	Skyberg	F. J. White	Skyberg	H. H. Lunnow	Skyberg.
Forest Mills	Forest Mills				
Minnecla Creamery	Zumbrota				
Moland Creamery	Kenyon	Hans Dahle			

GRANT COUNTY.

Elbow Lake	Elbow Lake				
Ashby Creamery Co	Ashby	G. T. Hoff	Ashby	A. M. Olson	Ashby
Herman	Herman				

HENNEPIN COUNTY.

Flour City Creamery Co	Minneapolis	J. L. Aakar	1500 E. Franklin Av. Minneapolis	Swan Hanson	1500 E. Franklin Av. Minneapolis.
Minneapolis Milk Co	Minneapolis	A. R. Rihuke	900 S. 6th St., Mpls	N. O. Bendickson	211 8th Av. N. E. Mpls.
Rice County Creamery Co., E. P. Brown	Minneapolis		69 9th St., Mpls	Rob't Higgins	69 9th St., Mpls.
Plymouth Dairy Co	Minneapolis	J. Anderson	421 Plymouth Ave.	J. Anderson	421 Plymouth Ave.
Maple Plain	Maple Plain	C. D. Ingersoll	Maple Plain	C. D. Ingersoll	Maple Plain.
Independence Co-operative Creamery	Maple Plain	Chas. Soley	Maple Plain, R. 1.	Jas. Sorenson	Maple Plain, R. 1.
New Model Creamery	St. Bonifacius	Felix Logelin	St. Bonifacius	Geo. Logelin	St. Bonifacius.
Germania Creamery Association	Minneapolis	Albert Bussch	Rogers	N. C. Iverson	Loretto.
Maple Leaf	Minneapolis	C. Zieberth	Osseo	O. Zieberth	Osseo.
Plymouth Milk Co	Minneapolis	N. C. Strand	Mpls.		
South Minneapolis Creamery Co	Minneapolis				
Minnesota Creamery Co	Minneapolis	J. A. Berg	Mpls.		
North Minneapolis Milk Co	Minneapolis				
Maple Leaf Creamery Co	Rogers	J. G. Owald	Rogers		
Seven Corners Milk Co	Minneapolis				



The Hydrologic Cycle. It has been estimated that a drop of water evaporated from the ocean rains five times before it gets back to the sea. (After National Resources Board Report.)

UNIVERSITY OF MINNESOTA
MINNESOTA GEOLOGICAL SURVEY
WILLIAM H. EMMONS, DIRECTOR

BULLETIN 31

THE GEOLOGY AND UNDERGROUND WATERS OF SOUTHERN MINNESOTA

BY

GEORGE A. THIEL

MINNEAPOLIS · 1944
THE UNIVERSITY OF MINNESOTA PRESS

The figures for hardness in Table 52 are not a true reflection of the character of the water in the formations indicated. In some wells that reach the Dresbach and Hinckley sandstone the water from higher formations is not completely shut off. However, from a study of analyses of water from carefully cased wells, it is safe to conclude that the water in the formations from the St. Peter to the Dresbach inclusive is of about the same hardness. The Hinckley sandstone, however, contains water with only about half as much temporary hardness, or about the same amount as the water in the Mississippi River. The iron content of artesian water taken from any subsurface stratum is much greater than that of Mississippi River water.

The temperature of artesian water varies with depth. As the earth is penetrated the temperature rises slowly, so that deep artesian water is usually warmer than that from shallow wells. This fact should be kept in mind when wells are drilled to obtain water for air-conditioning plants. The water in wells of moderate depth, such as those in the Jordan and the St. Peter sandstones, has a temperature from 45° to 50° F., whereas the water in the Hinckley sandstone is at a temperature of about 55° F.

Osseo

The village of Osseo uses about 4 million gallons of water annually. It obtains the water for its public supply system from a well 10 inches in diameter and 537 feet deep. The well penetrates more than 200 feet of St. Lawrence and Franconia shales, silts, and sandstone, but the chief source of water is the glacial drift, which is 300 feet thick in this vicinity. The static level is about 30 feet below the surface. (See accompanying section.)

Osseo Village Well. Elevation 892 ft.

		DEPTH (feet)	THICKNESS (feet)
Drift	Unclassified	0–300	300
St. Lawrence and Franconia	Shales and sandstone	300–537	237+

Hopkins

The well at Hopkins used for all municipal purposes is 16 inches in diameter and 820 feet deep. Its surface elevation is 920 feet above sea level, and the static water level is about 65 feet below the surface. The estimated annual consumption is about 35 million gallons. The subsurface geologic succession is given in the accompanying section.

Village Well at Hopkins

		DEPTH (feet)	THICKNESS (feet)
Drift	Unclassified	0–95	95
Platteville	Limestone	95–120	25
St. Peter	Sandstone	120–210	
	Shale	210–235	
	Sandstone	235–270	150

		DEPTH (feet)	THICKNESS (feet)
Shakopee-Oneota	Dolomite	270–390	120
Jordan	Sandstone	390–470	80
St. Lawrence	Shale and dolomite	470–535	65
Franconia	Shale and sandstone	535–660	125
Dresbach	Sandstone and shale	660–820	160

Robbinsdale

The village of Robbinsdale obtains water for its public supply system from a well 16 inches in diameter and 636 feet deep, drilled in 1937. The surface elevation is approximately 900 feet above sea level, and the well terminates in the lower part of the Franconia formation. The static water level is about 30 feet below the surface. When pumped at the rate of 800 gallons per minute the well has a drawdown of approximately 5 feet.

Wayzata

The village of Wayzata formerly obtained its water from an artesian well that tapped the Jordan sandstone. Ownership of this well was transferred to the county, and it is now one of the group of seven large-capacity wells used for pumping water into Lake Minnetonka.

The present supply of water for the village is taken from a well 154 feet deep, which terminates in the glacial drift. Its static level is 70 feet below the surface. When pumped at the rate of 860 gallons per minute it has a drawdown of 4 1/2 feet, and when the rate of pumping is increased to 1180 gallons per minute the drawdown is 5 1/2 feet below the static level.

Loretto

The village of Loretto does not have a public well. The formations penetrated by the deep well at the railroad station are shown in the accompanying section.

Well at Soo Line Station, Loretto. Elevation 995 ft.

		DEPTH (feet)	THICKNESS (feet)
Drift	Sand and gravel	0–70	
	Hardpan	70–110	
	Blue clay	110–170	170
Jordan	Sandstone	170–260	90
St. Lawrence and lower formations	Red shale	260–290	
	White sand	290–312	
	Red shale	312–335	
	White sand	335–340	
	Gray shale	340–390	
	Blue shale	390–420	
	Gray shale	420–440	
	Green shale	440–525	
	Sandstone	525–596	336+

Maple Plain

The village of Maple Plain is located north of the western end of Lake Minnetonka, in the western part of the county, where the glacial drift is

more than 200 feet thick. The public water supply is pumped from a well 10 inches in diameter and 418 feet deep. The static level is 114 feet below the surface. When pumped at the rate of 175 gallons per minute the well has a drawdown of 12 feet. The geological formations penetrated are shown in the accompanying section.

Village Well at Maple Plain. Elevation 1025 ft. Drilled 1939.*

		DEPTH (feet)	THICKNESS (feet)
Glacial drift	Loam soil	0–2	2
	Yellow clay	2–15	13
	Blue clay	15–74	59
	Blue clay and sand	74–160	86
	Sand and gravel	160–173	13
	Blue clay	173–210	37
	Fine sand	210–223	13
	Fine sand and gravel	223–234	11
Franconia	Green shale	234–242	8
	Sandstone, hard	242–250	8
	Sandstone and shale	250–300	50
	Green shale	300–311	11
	Sandstone, various colors	311–334	23
	Shale	334–338	4
	Sandstone	338–362	24
	Shale	362–365	3
	Sandstone, brown	365–388	23
Dresbach	Sandstone, gray	388–418	30

* Logs of other wells near the village are given in Bulletin 27, Minnesota Geological Survey.

County Wells at Lake Minnetonka

Following the drought years of 1933–35, Hennepin County officials ordered a number of artesian wells drilled (Figure 42), from which water was pumped and allowed to flow into Lake Minnetonka, in an attempt to raise the water in the lake to the level of pre-drought years (Figure 41). The logs of the new wells are shown in Figure 43. The log of well 6 is given elsewhere. Well 6 was formerly the village well at Wayzata. When all the wells were completed they yielded more than 15 million gallons per day. They were pumped almost continuously for approximately two years. Several were pumped for more than three years. The dates of completion of the wells and the fluctuations of the water levels are shown in Figure 43. Each well showed a steep initial drawdown during the first few months of operation, followed by slight fluctuations such as characterize the curves for wells 1 and 2 (Figure 44) during 1939 and 1940. The cumulative effect of the pumping of additional large-capacity wells is shown by the gradual depression of the water level in wells 1 and 2 as wells 3, 5, and 7 were completed and put into operation. (Wells 4 and 6 are not included in Figure 44.) At the beginning of 1939 the water in well 2 stood at about 820 feet above sea level, and by June 1941 it was depressed to 802 feet. Well 1 shows a similar trend. However, when pumping operations were stopped for several months during the summer

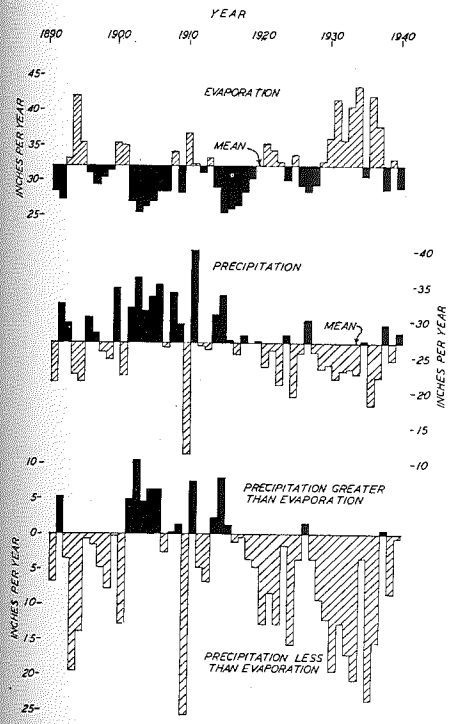


Figure 41. — Graphs of hydrological elements, showing computed annual evaporation from lakes and reservoirs, recorded annual precipitation, and computed evaporation minus recorded precipitation for the Minneapolis area. (Compiled by A. F. Meyer and published by the Minnesota Resources Commission, 1942.)

of 1941, all water levels rose to approximately the same static levels observed when the wells were drilled. Pumping during the winter of 1941–42 again depressed the water surface. All the wells were shut off in April 1942. Observations made in June 1943 showed that the static level in all the wells was as high as or higher than when the wells were drilled.

Precipitation and pumping have now brought the level of Lake Minnetonka to above that of the dam at Gray's Bay, where the crest of the outlet dam is 929.4 feet above sea level. The total precipitation in the area of Minneapolis during 1941 was 27.00 inches, and in 1942, 30.56 inches. The mean annual precipitation is 27.00 inches.

The influence of the seven large-capacity pumps of the Lake Minnetonka wells on the regional static water level is shown by their effect on Pilot Well 5 at Orono, which is nearly two miles from well 1. The location of this well is shown in Figure 42. Observations from March 6, 1940 to June 1, 1943 are given in Table 53.

Table 53. — Showing the Effect of the Seven County Wells on Pilot Well 5 at Orono, Lake Minnetonka. Elevation 932.6 ft.*

Date	Elevation Static Water Level	Other County Pumps in Operation
March 6, 1940	897.80	All pumping
March 28, 1941	896.90	All pumping
July 7, 1941	904.70	None pumping
February 5, 1942	898.60	No. 1 not pumping
April 1, 1942	899.60	No. 1 not pumping
June 9, 1942	909.80	None pumping
August 6, 1942	910.80	None pumping
December 21, 1942	912.30	None pumping
June 1, 1943	913.60	None pumping

* Data from the county engineer's office.

Unique Well Number 207090

County Hennepin
Quad Rockford
Quad Id 121C

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING RECORD
MINNESOTA STATUTES CHAPTER 1031

Entry Date 1991/08/24
Update Date 2014/08/18
Received Date

Well Name MAPLE PLAIN 1 Well A

Township	Range	Dir	Section	Subsection	Field Located Elevation
118	24	W	24	DCCBCB	MDH 1025.00 ft.

well address MAPLE PLAIN 1

MAPLE PLAIN MN 55359 Changed

contact address CITY OF MAPLE PLAIN

MAPLE PLAIN MN 55359

Description	Color	Hardness	From	To (ft.)
TOP SOIL	BLACK		0	2
CLAY	YELLOW		2	15
CLAY	BLUE		15	74
CLAY AND SAND	BLUE		74	160
SAND AND GRAVEL			160	173
CLAY	BLUE		173	210
FINE SAND			210	223
FINE SAND AND GRAVEL			223	234
SHALE	GREEN		234	242
HARD SANDROCK VARIOUS CO	VARIED		242	250
SANDROCK AND SHALE			250	300
SHALE	GREEN		300	311
SANDROCK VARIOUS COLORS	VARIED		311	334
SHALE			334	338
SANDROCK			338	362
SHALE			362	365
SANDROCK			365	369
SANDROCK			369	416
SANDROCK W/TRACE OF SHALI			416	418

Remarks
IRON 1.7 PPM HARD 320 PPM TASTE-HARD GAMMA, MULTI, AND CALIPER LOGGED 4-27-2006 FOR ST. LAWRENCE-FRANCONIA STUDY. M.G.S. NO. 4526.

First Bedrock CSTL
Last Strat CWOC
Aquifer Tunnel City-Wonewoc
Depth to Bedrock 234.00 ft.

Well Depth 418.00 ft
Depth Completed 418.00 ft
Date Well Completed 1939/11/00

Drillhole Angle

Drilling Method Cable Tool

Drilling Fluid

Well Hydrofractured? ☐ YES ☐ NO
From ft. to

Use community supply(municipal)

Casing Type Steel (black or low Drive Shoe? ☐ YES ☐ NO
Diameter 10 Depth 238
10.00 in. from 0.00 to 238.00 ft. lbs/ft

Hole Diameter (in.)
10.0(To 402.0
8.00 To 418.0

Screen No
Make Type
Diamter Slot Length Set

Open Hole(ft.) From 238.0 to 418.0

Static Water Level
114.00 ft. land surface Date measured 1939/11/00

Pumping Level (below land surface)
141.00 ft. after 5.00 hrs. pumping g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☑ 12 in. above grade
☐ At-grate (Environmental Wells and Borings ONLY) ☐ Basement offset

Grouting Information Well grouted? ☐ YES ☐ NO ☑ NOT SPECIFIED

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ YES ☐ NO

Pump
☐ Not Installed Date Installed
Manufacture's name
Model number HP 30.00 Volts
Length of drop pipe Material Capacity g.p.m
Type

Abandoned Wells
Does property have any not in use and not sealed well(s)? ☐ YES ☐ NO

Variance
Was a variance granted from the MDH for this well? ☐ YES ☐ NO

Well Contractor Cerfication
Renner Max Well Co. 27246
License Business Name Lic. or Reg No.

Name of Driller Date

Unique Well Number 207407

County Hennepin
Quad Rockford
Quad Id 121C

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING RECORD
MINNESOTA STATUTES CHAPTER 1031

Entry Date 1991/08/24
Update Date 2014/08/18
Received Date

Well Name MAPLE PLAIN 2 Well B

Township	Range	Dir	Section	Subsection	Field Located Elevation
118	24	W	24	CDDDCA	MDH 1035.00 ft.

well address MAPLE PLAIN 2
1620 MAPLE AV
MAPLE PLAIN MN 55359 Changed

contact address CITY OF MAPLE PLAIN
MAPLE PLAIN MN 55359

Description	Color	Hardness	From	To (ft.)
CLAY			0	40
GRAY CLAY SOME GRAVEL	GRAY		40	105
HARD CLAY, GRAVEL	YELLOW	HARD	105	165
SOFT YELLOW CLAY	YELLOW	SOFT	165	170
HARD CLAY, GRAVEL		HARD	170	214
DIRTY SANDSTONE			214	226
DIRTY SANDSTONE			226	228
SHALE	GRAY		228	243
GREEN SANDY SHALE	GREEN		243	250
RED SHALE	RED		250	255
GREEN SANDY SHALE	GREEN		255	265
HARD SHALE		HARD	265	285
GREEN SHALE AND SANDSTON	GREEN		285	364
GREEN SHALE AND SANDSTON	GREEN		364	365
WHITE SANDSTONE	WHITE		365	428
SHALE AND SANDSTONE			428	435

Remarks
DETONATED 8 SHOTS TOTALING 124 LBS. OF 75 PER CENT GELATINE. GAMMA LOGGED 4-7-1993. MAPLE PLAIN MUNI #2 MP=1.5 PUMPAGE TEST 400 GPM-BEFORE SHOOTING 630 GPM-AFTER SHOOTING

First Bedrock CTCG
Last Strat CECR
Aquifer Tunnel City-Wonewoc
Depth to Bedrock 226.00 ft.

Well Depth 435.00 ft
Depth Completed 435.00 ft
Date Well Completed 1959/10/01

Drillhole Angle

Drilling Method Cable Tool

Drilling Fluid

Well Hydrofractured? ☐ YES ☐ NO
From ft. to

Use community supply(municipal)

Casing Type Steel (black or low Drive Shoe? ☐ YES ☐ NO
Diameter 16 Depth 241
16.00 in. from 0.00 to 241.00 ft. lbs/ft

Hole Diameter (in.)

Screen No
Make Type
Diamter Slot Length Set

Open Hole(ft.) From 241.0 to 435.0

Static Water Level (Multiple SWL)
125.50 ft. land surface Date measured 1988/06/17

Pumping Level (below land surface)
192.00 ft. after hrs. pumping 630.00 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☑ 12 in. above grade
☐ At-grate (Environmental Wells and Borings ONLY) ☐ Basement offset

Grouting Information Well grouted? ☐ YES ☐ NO ☑ NOT SPECIFIED

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ YES ☐ NO

Pump
☐ Not Installed Date Installed
Manufacture's name PEERLESS
Model number HP 30.00 Volts 220
Length of drop pipe Material Capacity g.p.m
Type

Abandoned Wells
Does property have any not in use and not sealed well(s)? ☐ YES ☐ NO

Variance
Was a variance granted from the MDH for this well? ☐ YES ☐ NO

Well Contractor Cerfication
Tri-state Well Co. 27118
License Business Name **Lic. or Reg No.**
BERTTHIAUME,M

Name of Driller **Date**

Unique Well Number: **112238**

County: Hennepin
Quad: Rockford
Quad Id: 121C

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING RECORD
MINNESOTA STATUTES CHAPTER 1031

Entry Date: 1991/08/24
Update Date: 2016/11/30
Received Date:

Well Name MAPLE PLAIN 3 Well C

Township	Range	Dir	Section	Subsection	Field Located Elevation	MDH
118	24	W	24	CCCACD	1020.00	ft.

well address MAPLE PLAIN 3

MAPLE PLAIN MN 55359 Changed

contact address CITY OF MAPLE PLAIN

MAPLE PLAIN MN 55349

Description	Color	Hardness	From	To (ft.)
CLAY			0	30
SANDY CLAY	BLUE		30	57
CLAY	BLUE		57	162
GRAVEL			162	166
CLAY	BLUE		166	284
HARD-PACKED GRAVEL		HARD	284	286
HARD PACKED GRAVEL		HARD	286	290
SAND, SHALE, AND LIME			290	299
SHALE STICKY			299	312
SAND, SHALE, AND LIME			312	335
SHALEY SANDROCK			335	342
SHALEY, SANDROCK			342	393
SHALEY, SANDROCK			393	469
EAU CLAIRE-MT. SIMON TRANSI	GRAY	SOFT	469	475
EAU CLAIRE-MT. SIMON TRANSI	GRAY	SOFT	475	515
MT. SIMON	WHITE	SOFT	515	580

Remarks

GAMMA LOGGED 5-13-1993 & 7-14-1993 AFTER GRAVEL PACK REMOVED. IN 1994 SCREEN WAS PULLED AND THE WELL WAS DEEPENED. M.G.S. NO. 3619. CUTTING FROM 450-570 FT. MAPLE PLAIN MUNI #3 MP=2.25 WELL GRAVEL PACKED HAS 70 FT. OF SCREEN AND 60 FT. OF LEADER PIPE.

First Bedrock CTCG
Last Strat CMTS
Aquifer Mt.Simon
Depth to Bedrock 286.00 ft.

Well Depth 580.00 ft | **Depth Completed** 534.00 ft | **Date Well Completed** 1978/04/20

Drillhole Angle

Drilling Method Cable Tool

Drilling Fluid

Well Hydrofractured? ☐ YES ☐ NO From ft. to

Use community supply(municipal)

Casing Type Steel (black or low Drive Shoe? ☐ YES ☑ NO Diameter 18 Depth 534

30.00	in. from 0.00	to 59.00 ft.	lbs/ft
24.00	in. from 0.00	to 333.00 ft.	lbs/ft
18.00	in. from 0.00	to 534.00 ft.	lbs/ft

Hole Diameter (in.)
24.0(To 534.0
18.0(To 580.0

Screen Yes
Make Type
Diamter Slot Length Set

Open Hole(ft.) From 534.0 to 580.0

Static Water Level (Multiple SWL)
108.70 ft. land surface Date measured 1988/06/17

Pumping Level (below land surface)
220.00 ft. after hrs. pumping 650.00 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☑ 12 in. above grade
☐ At-grate (Environmental Wells and Borings ONLY) ☐ Basement offset

Grouting Information Well grouted? ☑ YES ☐ NO ☐ NOT SPECIFIED

Material	neat cement	From 0.0	To 60.0 ft.	0.00	
Material	neat cement	From 0.0	To 534.0 ft.	36.00	Cubic yards

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☑ YES ☐ NO

Pump
☐ Not Installed Date Installed 1994/00/07
Manufacture's name JOHNSTON
Model number TK-61554A HP 125.00 Volts 240
Length of drop pipe 280.(Material S Capacity 650 g.p.m
Type Turbine

Abandoned Wells
Does property have any not in use and not sealed well(s)? ☐ YES ☑ NO

Variance
Was a variance granted from the MDH for this well? ☐ YES ☐ NO

Well Contractor Cerfication
Bergerson-Caswell 27058
License Business Name Lic. or Reg No.
MANTHIE, D.
Name of Driller Date

Unique Well Number 824078

County Hennepin
Quad Rockford
Quad Id 121C

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING RECORD
MINNESOTA STATUTES CHAPTER 1031

Entry Date 2017/03/13
Update Date 2018/07/05
Received Date

Well Name MAPLE PLAIN 4

Township	Range	Dir	Section	Subsection	Field Located Elevation	MGS
118	24	W	24	CCCADB	1021.00	ft.

well address MAPLE PLAIN 4
1655 PIONEER AV
MAPLE PLAIN MN 55369

contact address CITY OF MAPLE PLAIN
5050 INDEPENDENCE ST
MAPLE PLAIN MN 55369

Description	Color	Hardness	From	To (ft.)
LOAM/CLAY	BLK/YEL	SOFT	0	5
CLAY	YELLOW	MEDIUM	5	15
CLAY W/FINE GRAVEL	GRAY	MEDIUM	15	270
MED SAND	GRAY	MEDIUM	270	280
FINE GRAVEL WITH SAND	VARIED	SOFT	280	285
MED SAND	GRAY	MEDIUM	285	295
FINE SAND W/GRAVEL	GRAY	MEDIUM	295	300
COARSE GRAVEL & COBBLES	VARIED	MEDIUM	300	305
SAND/COARSE GRAVEL	VARIED	MEDIUM	305	314
COARSE GRAVEL	VARIED	MEDIUM	314	315
CEMENTED SHALE/CEMENTED	GRN/TAN	MEDIUM	315	325
CEMENTED SHALE & SANDSTO	GRN/TAN	MEDIUM	325	330
CEMENTED SHALE & SANDSTO	VARIED	MEDIUM	330	335
SHALE AND SANDSTONE	GRN/TAN	MEDIUM	335	340
SHALE	GREEN	MEDIUM	340	343
SHALE	GRN/BLK	MEDIUM	343	345
SANDSTONE	TAN	MEDIUM	345	350
SANDSTONE	GRAY	MEDIUM	350	365
SANDSTONE	GRAY	MED-HRD	365	370
SANDSTONE	GRAY	MEDIUM	370	385
SHALE AND SANDSTONE	GRN/TAN	MEDIUM	385	390
SHALE	GREEN	MEDIUM	390	392

Remarks
GAMMA AND MULTI TOOL LOGGED 3-13-2017. M.G.S. NO. 5661. LOGGED FOR COUNTY ATLAS. DRILLERS: BUTCH GAUNSTAD & JASON JOHNSON.

First Bedrock CTCG
Last Strat CWOC
Aquifer Wonewoc Sandstone
Depth to Bedrock 315.00 ft.

Well Depth 392.00 ft
Depth Completed 392.00 ft
Date Well Completed 2017/04/13

Drillhole Angle

Drilling Method Dual Rotary

Drilling Fluid

Well Hydrofractured? ☐ YES ☐ NO
From ft. to

Use community supply(municipal)

Casing Type Steel (black or low Drive Shoe? ☑ YES ☐ NO
Diameter 12 Depth 343
18.00 in. from 0.00 to 321.00 ft. lbs/ft
12.00 in. from 0.00 to 343.00 ft. lbs/ft

Hole Diameter (in.)
17.0(To 392.0

Screen No
Make Type
Diamter Slot Length Set

Open Hole(ft.) From 343.0 to 392.0

Static Water Level
104.00 ft. land surface Date measured 2017/03/22

Pumping Level (below land surface)
176.00 ft. after 24.00 hrs. pumping 1000.00 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☑ 12 in. above grade
☐ At-grate (Environmental Wells and Borings ONLY) ☐ Basement offset

Grouting Information Well grouted? ☑ YES ☐ NO ☐ NOT SPECIFIED
Material neat cement From To 343.0 ft. 14.50 Cubic yards

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☑ YES ☐ NO

Pump
☑ Not Installed Date Installed
Manufacture's name
Model number HP Volts
Length of drop pipe Material Capacity g.p.m
Type

Abandoned Wells
Does property have any not in use and not sealed well(s)? ☐ YES ☑ NO

Variance
Was a variance granted from the MDH for this well? ☐ YES ☑ NO

Well Contractor Cerfication
Mark J Traut Wells, Inc. 1404
License Business Name **Lic. or Reg No.**
SEE REMARKS

Name of Driller **Date**